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REMARKS

Claims 2-4, 7-18, and 21-30 remain pending in the present application.

Rejections under 35 U.S.C. §112

The rejection of claims 1-18 and 24-27 under 35 U.S.C. §112, variously under the first and second paragraphs of that section, would apparently be moot in view of the amendment submitted herewith. All remaining claims are now ultimately dependent upon independent claims 28-30, which were not rejected under 35 U.S.C. §112. Withdrawal of the rejections is requested.

Rejection under 35 U.S.C. 102(b) over Lim et al.

Claims 5, 26, and 27 stand rejected under 35 U.S.C. §102(b) as anticipated by Lim et al. (U.S. Patent no. 5,290,628—hereinafter the Lim '628 Patent). Applicants traverse this basis for rejection and respectfully request reconsideration and withdrawal thereof in view of the accompanying amendment.

Rejection under 35 U.S.C. 102(b)/103 over Steuber

Claims 1-18 stand rejected under 35 U.S.C. §102(b) as anticipated by, or under 35 U.S.C. §103(a) as obvious over Steuber (U.S. Patent no. 3,169,899). Applicants traverse this basis for rejection and respectfully request reconsideration and withdrawal thereof in view of the accompanying amendment.

Rejection under 35 U.S.C. 102(b)/103 over Blades

Claims 1-18 stand rejected under 35 U.S.C. §102(b) as anticipated by, or under 35 U.S.C. §103(a) as obvious over Blades (U.S. Patent no. 3,081,519). Applicants traverse this basis for rejection and respectfully request reconsideration and withdrawal thereof in view of the accompanying amendment.

Rejection under 35 U.S.C. 102(b)/103 over the Lim '628 Patent

Claims 6-18 and 24-27 stand rejected under 35 U.S.C. §102(b) as anticipated by, or under 35 U.S.C. §103(a) as obvious over the Lim '628 Patent, as applied to claim 5 above. Applicants traverse this basis for rejection and respectfully request reconsideration and withdrawal thereof in view of the accompanying amendment.

Rejection under 35 U.S.C. 102(b)/103(a) over Shin et al.

Claim 28 stands rejected under 35 U.S.C. §102(b) as anticipated by or in the alternative, under 35 U.S.C. §103(a) as obvious in view of Shin et al. (U.S. Patent no.

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5,147,568). Applicants traverse this basis for rejection and respectfully request reconsideration and withdrawal thereof.

The Examiner opines that since Shin et al. disclose flash spinning of fibers from a hydrocarbon/co-solvent spin mixture, if those fibers were laid down to form a nonwoven sheet, the sheets so formed would inherently demonstrate the limitations of claims 28-30. Applicants respectfully submit that the Examiner's position as to inherency is without merit, as demonstrated by the Shin Declaration, and further represents an 'obvious to try' standard of unpatentability, which is prohibited.

Initially, the Examiner's attention is directed to the fact that claim 28 now limits the spin agent to a mixture of normal pentane and cyclopentane, and cannot include a "co-solvent" according to Shin et al. Shin et al. require the use of

...greater than 10 weight percent of a co-solvent spin liquid having an atmospheric boiling point less than 100°C and selected from the group consisting of an inert gas, a hydrofluorocarbon, a hydrochlorofluorocarbon, a perfluorinated hydrocarbon, a polar solvent and mixtures thereof. (Col. 4, lines 61-66).

Thus, cyclopentane is not a permitted "co-solvent" according to Shin et al. Shin et al. disclose that the hydrocarbon portion of their spin liquid can be selected from among C₄₋₇ hydrocarbons, including pentane, cyclopentane and mixtures thereof (col. 4, lines 19-40), but must also include greater than 10 weight percent of said co-solvent.

The Examiner dismisses Dr. Shin's previously-submitted Declaration under 37 C.F.R. 1.132 as an 'opinion' declaration, in spite of the fact that said declaration provides tabular data summarizing testing which was actually performed to measure the BET surface areas of various fibers which were actually made and reported in the Shin et al. patent. That BET surface area data clearly demonstrates that none of the fibers measured/reported have surface areas within the scope of claim 28 (or claims 29-30, as amended), which requires that the surface area of the fiber strands be less than 10 m²/g. Applicants respectfully submit that the data in Dr. Shin's declaration represents fact, not opinion. Accordingly, it cannot be said that the fibers made according to the Shin et al. reference necessarily, and therefore inherently, meet the limitations of the present claims. Withdrawal of the rejections is requested on this basis alone.

To reiterate, Dr. Shin declares that plexifilamentary film-fibrils which were formed during his investigations resulting in his '568 Patent do not inherently meet the surface area limitations set forth in claim 28. In this regard, Dr. Shin states that he selected fibers disclosed in the Examples of the '568 Patent which he deemed

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most likely to meet the limitations of claim 28, those formed at temperatures and concentrations closest to the process parameters of claim 28 and having been indicated in the '568 Patent as having a fibrillation level of "Fine" or "Very Fine" (Shin Declaration, paragraph 6). Upon measurement of those fibers, it was revealed that their BET Surface Areas were invariably above 10 m²/g (Shin Declaration, paragraph 7), and thus outside the scope of claim 28.

The Examiner's attention is further directed to Table 2 of the Shin et al. patent, wherein surface area data are reported for Examples 2-8, none of which are remotely close to meeting the surface area limitation of claim 28, in spite of having fibrillation levels ranging from "slightly coarse" to "very fine". Such data, in addition to that provided in the Shin Declaration, indicates that fine fibrillation of fibers does not correspond to low surface areas.

Likewise, the data presented in the present specification for Comparative Examples B-E, all of which were conducted using a mixed spin agent of n-pentane/cyclopentane and with polyethylene concentrations within the scope of the present claims, but spin temperatures less than the required 205°C, as claimed, demonstrate that surface areas obtained thereby do not meet the limitation of claim 28, i.e. a surface area less than 10 m²/g. Thus, even though Comparative Examples B-E were conducted within the broad range of spinning parameters set forth in Shin et al., it is clear that they do not result in fibers which inherently meet the limitations of the present claims, and cannot support either an anticipation rejection or an obviousness rejection. Withdrawal of the rejections is requested.

Rejection under 35 U.S.C. 102(e)/103(a) over Lim et al.

Claim 6 stands rejected under 35 U.S.C. §102(b) as anticipated by or in the alternative, under 35 U.S.C. §103(a) as obvious in view of Lim et al. (U.S. Patent no. 6,034,008). Applicants traverse this basis for rejection and respectfully request reconsideration and withdrawal thereof, in view of the accompanying amendment.

Rejection under 35 U.S.C. 103(a) over Shin et al.

Claims 1-18, 29, and 30 stand rejected under 35 U.S.C. §103(a) as obvious in view of Shin et al. Applicants traverse this basis for rejection and respectfully request reconsideration and withdrawal thereof.

Applicants reiterate their comments in traverse of the application of Shin et al. to the present claims, as set forth above, and respectfully submit that the fibers of Shin et al. fail to inherently meet the limitations of the present claims.

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Rejection under 35 U.S.C. 103(a) over Shin et al.

in view of Bisbis et al.

Claims 21-27 stand rejected under 35 U.S.C. §103(a) as obvious over Shin et al. in view of Bisbis et al. (U.S. Patent no. 5,919,539). Applicants traverse this basis for rejection and respectfully request reconsideration and withdrawal thereof.

Applicants reiterate their comments in traverse of the application of Shin et al. to the present claims, as set forth above, and respectfully submit that the fibers of Shin et al. fail to inherently meet the limitations of the present claims.

Bisbis et al. fail to cure the deficiencies of Shin et al., but merely disclose bonding techniques. There is nothing within the Bisbis et al. disclosure which would suggest to the skilled artisan that such bonding techniques, if applied to nonwoven sheets made from the Shin et al. process, would result in nonwoven sheets having plexifilamentary fiber strands with surface areas of less than 10 m²/g and crush values of at least 1 mm/g, as required by the claims.

Rejection under 35 U.S.C. 103(a) over Steuber

in view of Bisbis et al.

Claims 21-27 stand rejected under 35 U.S.C. §103(a) as obvious over Steuber (U.S. Patent no. 3,169,899) in view of Bisbis et al. (U.S. Patent no. 5,919,539). Applicants traverse this basis for rejection and respectfully request reconsideration and withdrawal thereof.

Applicants reiterate their comments in traverse of Steuber as set forth in their response of February 12, 2003 (pp. 6-9), and respectfully submit that Steuber fails to disclose or suggest nonwoven sheets within the scope of the present claims.

Likewise, the bonding techniques of Bisbis et al. fail to disclose or suggest that such would result in nonwoven sheets within the scope of the present claims. Withdrawal of the rejection is requested.

Rejection under 35 U.S.C. 103(a) over Blades

in view of Bisbis et al.

Claims 21-27 stand rejected under 35 U.S.C. §103(a) as obvious over Blades (U.S. Patent no. 3,081,519) in view of Bisbis et al. (U.S. Patent no. 5,919,539). Applicants traverse this basis for rejection and respectfully request reconsideration and withdrawal thereof.

Applicants reiterate their comments in traverse of Blades as set forth in their response of February 12, 2003 (p. 9), and respectfully submit that Blades fails to disclose or suggest nonwoven sheets within the scope of the present claims.

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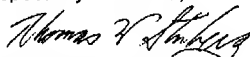
Likewise, the bonding techniques of Bisbis et al. fail to disclose or suggest that such would result in nonwoven sheets within the scope of the present claims. Withdrawal of the rejection is requested.

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In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,



THOMAS W. STEINBERG
ATTORNEY FOR APPLICANTS
Registration No.: 37,013
Telephone: (302) 892-0887
Facsimile: (302) 892-7343

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TWS:fgl